

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION BY SCS CARBON TRANSPORT LLC FOR
A PERMIT TO CONSTRUCT A CARBON DIOXIDE TRANSMISSION PIPELINE**

SD PUC DOCKET NO. HP24-001

PRE-FILED SUPPLEMENTAL TESTIMONY OF ALEX LANGE
ON BEHALF OF SCS CARBON TRANSPORT LLC

January 31, 2025

1 **Q. Mr. Lange, have you previously offered written testimony in this proceeding?**

2 A. Yes, I have.

3 **Q. What is the purpose of your supplement testimony today?**

4 A. Specifically, I will be addressing certain topics that arose during the public input
5 meetings the PUC held from January 15 through January 1, 2025 regarding the Project.

6 **Q. What exhibits are attached to your Supplemental Testimony?**

7 A. The following exhibits are attached to my Supplemental Testimony:

8 Exhibit 1: Frost Heave Study

9 Exhibit 2: Example of an Easement Agreement

10 **Q. What is your role with respect to the Project?**

11 A. I am the Director of Engineering for the pipeline and pipeline facilities portion of the
12 Midwest Carbon Express (MCE) Project. My primary role is to confirm technical deliverables for
13 the Project are completed on schedule and meet quality and performance requirements under
14 applicable regulations, Design Basis, and engineering design and specifications. As a part of my
15 responsibilities, I also manage internal engineers and external engineering/technical
16 contractors. In my capacity as Director of Engineering, I have also personally met with
17 numerous landowners along the Project route to understand any unique circumstances on their
18 property and, where possible, to adjust the proposed pipeline route to accommodate landowner
19 preferences.

20 **Q. We heard concerns at the public input meetings regarding depth of cover of the
21 pipeline around streams and rivers and how erosion could affect the Project? Can you
22 explain what the Project has done to mitigate those potential risks?**

23 A. SCS Carbon Transport LLC (SCS) utilizes a multi-step process to identify and mitigate
24 geohazards, including integrity risks from streams and rivers. The first step is to engage a
25 geotechnical consultant to research and compile publicly available geologic data from state and
26 national sources, including assessing the potential for hydrotechnical hazards. The
27 hydrotechnical assessment focuses on identifying potential issues related to channel migration,
28 stream bank slides, vertical streambed instability, and proximity of upgradient impoundment
29 features that may present potential future pipeline integrity issues related to pipe exposure or
30 unsupported span lengths. These stream and river crossings are assigned a hazard

31 classification of low, medium, or high based on a number of characteristics like stream/river
32 morphology and crossing design. For any crossings with a moderate or high classification, SCS,
33 the geotechnical consultant (GeoSyntec Consultants), and the pipeline engineering contractor
34 (Gulf Interstate Engineering) use the results from the hydrotechnical assessments to refine
35 pipeline alignment, crossing angle, proposed horizontal directional drill (HDD) entry or exit
36 locations, and/or the proposed HDD geometry for each of the river and stream crossings to
37 lower the risk category to low.

38 **Q. We also heard concerns regarding the frost lines/freeze lines in South Dakota.**
39 **Why is four-foot depth of cover enough to mitigate any risk from the frost lines/freeze**
40 **lines?**

41 A. For frost heave to occur, three conditions must be met, one of which is that the depth of
42 freezing must occur below the pipeline. Due to the burial depth alone, the likelihood of frost
43 heave on any portion of the MCE pipeline system is highly unlikely. The U.S. Department of
44 Agriculture (USDA) records soil temperatures at various depths at monitoring stations
45 throughout the U.S. As part of the Frost Heave Study (see Exhibit 1 to this supplemental
46 testimony), five USDA locations spread across the MCE Project footprint were utilized to gather
47 ground temperature data. This was further expanded to include an additional review of data
48 from Glacial Ridge, Minnesota, outside of Grand Forks, to provide an additional level of
49 conservatism. Frost heave was determined to not be a risk to the pipeline because it will be
50 buried at a depth of at least 48 inches for this Project, which under all years and locations
51 reviewed, would be below the frost line. In addition, as discussed in the Frost Heave Study, in a
52 situation where frost could reach depths below the pipeline, the amount of movement expected
53 at such a depth would be very small given the relation to the thickness of any underlying ice
54 lenses and the unconstrained expansion that would occur above. Today's materials and
55 construction practices have evolved, including the introduction of more ductile steels, allowing
56 greater allowable deformation (strain) due to external loads (frost heave).

57 **Q. Have you been involved with obtaining easements from landowners?**

58 A. Yes, I have.

59 **Q. What does the Project's easement agreement look like?**

60 A. Attached to this supplemental testimony, as Exhibit 2, is an example of an easement
61 agreement that we would initially propose to a landowner. As you can see, the easement

62 agreement limits SCS's rights to a single pipeline to transport a specific product. The language
63 in the agreement covers a variety of topics like pipeline size, ingress/egress, indemnity, drain tile
64 repair/warranty, and others. Throughout our team's landowner interactions, where possible we
65 regularly make modifications to this document to address the unique circumstances for their
66 individual property. Some examples of unique language we have worked with landowners on
67 previously would be depth of cover, rock removal options, and trench plugs to facilitate the
68 movement of equipment or livestock across the pipeline during construction, among many
69 others.

70 **Q. In a situation in which a landowner leases their property to a tenant, will the tenant**
71 **receive any payment for the easement?**

72 A. The payment associated with the easement agreement commonly consists of three
73 parts, compensation for the pipeline easement, compensation for the temporary construction
74 easement, and payment for crop damages. SCS pays the landowner of public record all
75 compensation unless otherwise directed by the landowner. In many cases, the landowner
76 directs us to compensate a portion of the payment to its tenants and we're glad to do that. In
77 other cases, the landowner chooses to work with their tenant on damage compensation directly.
78 Throughout our easement negotiation process, we recognize and respect the property is the
79 landowner's land and their relationship with a tenant is in many cases very personal. SCS takes
80 cues from the landowner on how they want us to interact with their tenant.

81 **Q. There were a number of landowners that spoke at the public meetings and said**
82 **they would be willing to meet with the Project? Do you intend to follow up with those**
83 **individuals?**

84 A. Yes, the Project had a number of affected landowners that either spoke publicly at the
85 meetings or privately with SCS personnel before or after the meetings. SCS will follow-up with
86 all of these individuals. I spoke with six affected landowners during the meetings and have
87 followed-up with all of them. Four indicated they would speak with family and propose a time to
88 meet. I left voicemails with an additional two and will follow-up again in the future.

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93 **Q. Does this conclude your supplemental testimony?**

94 A. Yes.

95 Dated this 31 day of January, 2025.

96

97 /s/ Alex Lange

98 Alex Lange

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